

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.  
  
Authorization for this examiner's amendment was given in a telephone interview with Mr. Tait Swanson # 48,226 on April 8, 2008

The application has been amended as follows:

Replace claim 77 with:

77. (currently amended) A system, comprising:  
a turbomachine monitor configured to identify abnormal operational events as an indication of a rub in at least near real time between components of a turbomachine, wherein the abnormal operational events comprise an abnormal vibration value relative to a baseline, ~~an abnormal eccentricity value, an abnormal behavior associated with a transient condition, an abnormal behavior associated with a variation in load, an abnormal behavior associated with a variation in pressure, an abnormal steam characteristic of the turbomachine, an abnormal differential expansion, or a combination thereof.~~

Replace claim 89 with:

89. (currently amended) A system, comprising:

a turbomachine monitor configured to identify abnormal operational events as an indication of a rub between components of a turbomachine, wherein the abnormal operational events comprise a sudden change in vibration relative to a first baseline, a large variance in vibration relative to a second baseline~~past data~~, or a large vibration amplitude relative to a third baseline~~past data~~, or a combination thereof.

Replace claim 93 with:

93. (currently amended) A system, comprising:  
a turbomachine monitor configured to monitor for abnormal operational events to identify a possible rub between components of a turbomachine in at least near real time, wherein the abnormal operational events comprise a sudden change relative to a first baseline, or a high variation relative to a second baseline, or a high value relative to a third baseline, or a combination thereof, of an operational parameter of the turbomachine, wherein the operational parameter comprises vibration amplitude.

Amendments to claims 77, 89 and 93 were made to define over the applied prior art. The additional step of "relative to a baseline" now positively claims the mechanical system defined in the specification. This system is deemed to be non-obvious over the systems of the prior art.

Add the following claims:

108. (new) The system of claim 77, wherein the abnormal operational events comprise an abnormal eccentricity value, an abnormal behavior associated with a transient condition, an abnormal behavior associated with a variation in load, an abnormal behavior associated with a variation in pressure, an abnormal steam characteristic of the turbomachine, an abnormal differential expansion, or a combination thereof.

109. (new) The system of claim 89, wherein the first, second, and third baselines are based on past data.

***Allowable Subject Matter***

2. Claims 1-4, 51, 52, 54-58, 60-74 and 76-109 are allowed.

***Reasons for Allowance***

3. The following is an examiner's statement of reasons for allowance:  
Independent claims 1, 3, 4, 51, 56, 52, 54, 56, 77, 89 and 93 contain allowable subject matter. None of the prior art of record shows or fairly suggests the claimed invention.

Regarding claims 1, 3, 4, 51, 56, 52, 54, 56, 77, 89 and 93:

Please see previous office action and applicant's response filed on 02/07/2008 for reason for allowance.

Claims 2, 62, 63, 76 and 105 are allowed due to their dependency on claim 1.

Claims 64 and 65 are allowed due to their dependency on claim 3.

Claims 66 and 67 are allowed due to their dependency on claim 4.

Claims 68 and 69 are allowed due to their dependency on claim 51.

Claims 70 and 106 are allowed due to their dependency on claim 52.

Claims 55, 72, 73 and 107 are allowed due to their dependency on claim 54.

Claims 57, 56, 58, 60, 61 and 74 are allowed due to their dependency on claim 56.

Claims 78-88 and 108 are allowed due to their dependency on claim 77.

Claims 90-92 and 109 are allowed due to their dependency on claim 89.

Claims 94, 95, 97-104 are allowed due to their dependency on claim 93.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### **Contact information**

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S. Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2863

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tung S. Lau/

Tung S. Lau, Art Unit 2863

Primary Examiner

April 8, 2008